

DETAILED ACTION

Allowable Subject Matter

1. Claims 9-22 are allowed.

The following is an examiner's statement of reasons for allowance:

Goedeke et al. (hereinafter "Goedeke") (USPN. 5,153,722) discloses a fire detection system includes a color video camera, a frame grabber and a computer processor operative to store and examine a series of image frames of the viewed area. Ultraviolet and infrared detectors produce event signals when energy received exceeds predetermined thresholds. The processor then rapidly evaluates the images from the camera to determine bright area objects, their location, edge profile, edge flicker, stationarity and spectral characteristics as well as spectral flicker to confirm a fire event. Finally, the size of a confirmed fire image is measured as a final criterion for the release of fire suppressant material, either in a limited zone within which the fire is located or within the entire facility (see Goedeke: Abstract; col. 7, lines 36-52; col. 8, lines 36-64).

Owrutsky et al. (hereinafter "Owrutsky") (USPAP. 2005/0012626) discloses a method for detecting a fire while discriminating against false alarms in a monitored space containing obstructed and partially obstructed views includes the steps of positioning an infrared camera in a location where the camera has both a direct view of a first portion of the monitored space and an obstructed view of a second portion of the monitored space, the camera including a charge coupled device (CCD) array sensitive to wavelengths in the range of from about 400 to about 1000 nm and a long pass filter for transmitting wavelengths greater than about 700 nm; filtering out radiation

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wavelengths lower than about 700 nm; converting an electrical current from the CCD array to a signal input to a processor; processing the signal; and generating alarms when predetermined criteria are met to indicate the presence of a fire in one or both of the first portion of the monitored space and the second portion of the monitored space. Indirect radiation, such as radiation scattered and reflected from common building or shipboard materials and components, indicative of a fire can be detected. The method can be implemented with relatively low cost components. A benefit of using the invention in a system in combination with Video Image Detection Systems (VIDS) is that in principle both fire and smoke can be detected for an entire compartment without either kind of source having to be in the direct LOS of the cameras, so that the entire space can be monitored for both kinds of sources with a single system (see Owrutsky: Abstract; Paragraphs [0028], [0031], and [0032]).

Henneberry et al. (hereinafter "Henneberry") (USPN. 2007/0055889)discloses an intelligent electronic device with multiple functionalities that may include multiple secure accesses includes a sensor coupled with a processor. The sensor may sense electrical parameters in an electrical circuit and generate signals indicative of the electrical parameters for the processor. The processor may be configured to concurrently operate multiple intelligent electronic device functionalities. The intelligent electronic device functionalities may each include one or more functions. The functions within one of the intelligent electronic device functionalities may be mutually exclusive. Secure access to one or more of the intelligent electronic device functionalities may be enabled by entry of a user identification (see Henneberry: Abstract; Paragraph [0080]).

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Regarding claim 9, the closest prior art (Goedeke, Owrutsky, and Henneberry) either alone or in combination fails to anticipate or render obvious the combination wherein "wherein the image processing unit and the control logic unit extract a change in the images captured by the monitor cameras in response to a control signal generated from the electric facility on an occurrence of the arc discharge, and determine the location of the arc discharge as a two-dimensional coordinate based on the images captured by the monitor cameras" in combination with other limitations in the claims as defined by Applicant.

Claims 10-16 and 20-22 depend from allowed claim 9 and therefore are also allowed.

Regarding claim 17, the closest prior art (Goedeke, Owrutsky, and Henneberry) either alone or in combination fails to anticipate or render obvious the combination wherein "wherein the image processing unit and the control logic unit extract a change in the images captured by the monitor cameras in response to a control signal generated by the electric facility on an occurrence of the arc discharge, and determine the location of the arc discharge; and wherein the monitor cameras are arranged such that all locations in the electric facility are arranged by at least two of the monitor cameras; and the image processing unit and the control logic unit, on the occurrence of the arc discharge, process the images captured by at least two of the monitor cameras to calculate the location by triangulation" i in combination with other limitations in the claims as defined by Applicant.

Regarding claim 18, the closest prior art (Goedeke, Owrutsky, and Henneberry)

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either alone or in combination fails to anticipate or render obvious the combination wherein “wherein the image processing unit and the control logic unit extract a change in the images captured by the monitor cameras in response to a control signal generated by the electric facility on an occurrence of the arc discharge, and determine the location of the arc discharge; and wherein the image processing unit and the control logic unit observe a change in a remaining heat energy of the arc discharge immediately after the occurrence of the arc discharge” in combination with other limitations in the claims as defined by Applicant.

Regarding claim 19, the closest prior art (Goedeke) either alone or in combination fails to anticipate or render obvious the combination wherein “wherein the image processing unit and the control logic unit extract a change in the images captured by the monitor cameras in response to a control signal generated by the electric facility on an occurrence of the arc discharge, and determine the location of the arc discharge; an image switching unit connected to the image processing unit; and an image recording unit and a monitor connected to the image switching unit, wherein the location of the arc discharge determined by the image processing unit and the control logic is displayed on the monitor and the operation unit as a plan view, and is simultaneously recorded in the image recording unit” in combination with other limitations in the claims as defined by Applicant.

Conclusion

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONG HUYNH whose telephone number is (571)272-2718. The examiner can normally be reached on M-F: 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramos-Feliciano Eliseo can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. H./
Examiner, Art Unit 2857

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Supervisory Patent Examiner, Art Unit 2857